Volunteer Lake Assessment Program Individual Lake Reports

KILTON POND, GRAFTON, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	4,480	**Max. Depth (m):**	3.1	**Flushing Rate (yr^{-1}):**	34.7
Surface Area (Ac.):	68	**Mean Depth (m):**	1.2	**P Retention Coef:**	0.39
Shore Length (m):	4,000	**Volume (m^3):**	318,500	**Elevation (ft):**	850

TROPHIC CLASSIFICATION

Year	Trophic class
1979	OLIGOTROPHIC
1993	MESOTROPHIC

KNOWN EXOTIC SPECIES

The Waterbody Report Card tables are generated from the 2012 305(b) report on the status of N.H. waters, and are based on data collected from 2001-2011.

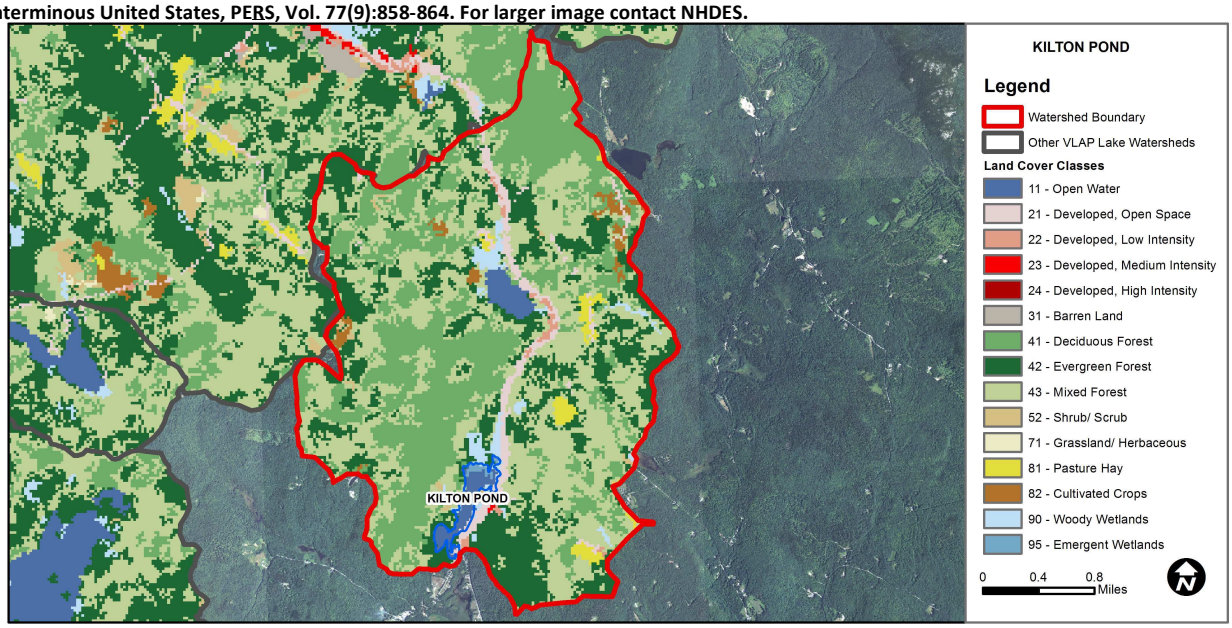
Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Cautionary	<5 samples and median is > threshold. More data needed.
	pH	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	D.O. (mg/L)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	D.O. (% sat)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	Chlorophyll-a	Good	>/=5 samples and median is < threshold but > 1/2 threshold value.
Primary Contact Recreation	E. coli	Encouraging	>2 samples exist that are > 75% of geometric mean criteria, but not enough samples to calculate geomertic mean. No single sample exceedances. More data needed.
	Chlorophyll-a	Very Good	At least 10 samples with 0 exceedances of criteria.

BEACH PRIMARY CONTACT ASSESSMENT STATUS

KILTON POND - HUFF BEACH	E. coli	Cautionary	One exceedance of single sample criteria but not enough data to calcuate geometric mean. More data needed.

WATERSHED LAND USE SUMMARY

Fry, J., Xian, G., Jin, S., Dewitz, J., Homer, C., Yang, L., Barnes, C., Herold, N., and Wickham, J., 2011. Completion of the 2006 National Land Cover Database for the Conterminous United States, PERS, Vol. 77(9):858-864. For larger image contact NHDES.



Land Cover Category	% Cover	Land Cover Category	% Cover	Land Cover Category	% Cover
Open Water	2.14	Barren Land	0	Grassland/Herbaceous	0
Developed-Open Space	3.14	Deciduous Forest	30.3	Pasture Hay	1.29
Developed-Low Intensity	0.5	Evergreen Forest	21.99	Cultivated Crops	1.1
Developed-Medium Intensity	0.03	Mixed Forest	37.14	Woody Wetlands	1.81
Developed-High Intensity	0	Shrub-Scrub	0.38	Emergent Wetlands	0.17

VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS
KILTON POND, GRAFTON, NH
2012 DATA SUMMARY

OBSERVATIONS AND RECOMMENDATIONS (*Refer to Table 1 and Historical Deep Spot Data Graphic)*

- **CHLOROPHYLL-A:** Chlorophyll levels increased as the summer progressed however were average for the pond. Historical trend analysis indicates a relatively stable chlorophyll level since monitoring began.
- **CONDUCTIVITY/CHLORIDE:** Conductivity was slightly elevated and is higher in Smith River Inlet. Chloride was relatively low and also slightly higher in the inlet.
- **TOTAL PHOSPHORUS:** Phosphorus levels were fairly stable throughout the summer. Historical trend analysis indicates a significantly increasing (worsening) epilimnetic (upper water layer) phosphorus level since monitoring began.
- **TRANSPARENCY:** Transparency was good and the Secchi disk was visible on the pond bottom throughout the summer. Historical trend analysis indicates a relatively stable transparency since monitoring began.
- **TURBIDITY:** Deep spot turbidity was average and Smith River Inlet was slightly elevated due to organic matter being disturbed while sampling.
- **PH:** pH levels were in a good range, however historically critical pH conditions have been measured.
- **RECOMMENDED ACTIONS:** Deep spot phosphorus levels have significantly increased which is a concern. Identify areas within the watershed that could potentially contribute to phosphorus loading. The beach area is very steeply sloped and likely erodes after significant storm events. Suggest constructing a perched beach if possible on the site to reduce sedimentation, and phosphorus loading from the beach area. Educate watershed residents on ways to reduce stormwater runoff from their properties utilizing DES' "NH Homeowner's Guide to Stormwater Management" tool.

Dissolved Oxygen & Temperature Profile

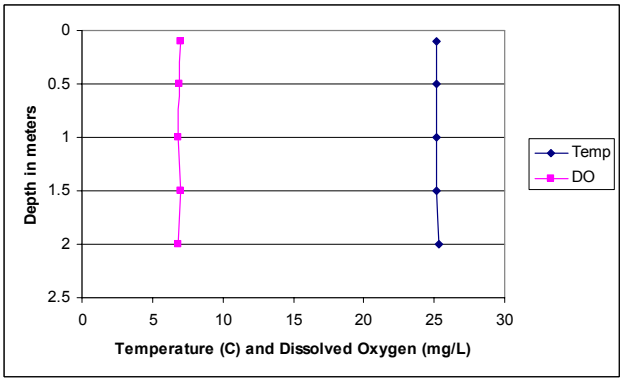


Table 1. 2012 Average Water Quality Data for KILTON POND

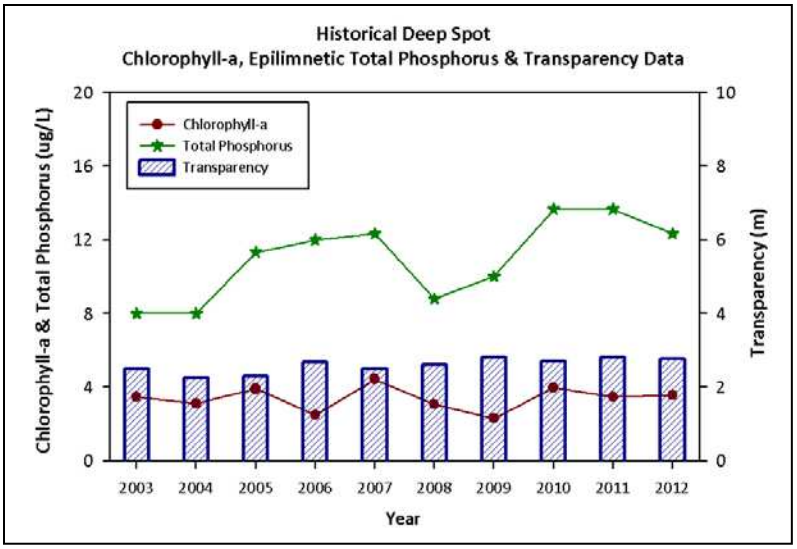
Station Name	Alk.	Chlor-a	Chloride	Cond.	Total P	Trans.		Turb.	pH
	mg/l	ug/l	mg/l	uS/cm	ug/l	m		ntu	
						NVS	VS		
Deep Epilimnion	8.37	3.55	9	70.0	12	2.78	2.50	1.04	6.88
Smith River Inlet			12	87.3	12			1.56	6.61

NH Median Values: Median values for specific parameters generated from historic lake monitoring data.
Alkalinity: 4.9 mg/L
Chlorophyll-a: 4.58 mg/m^3
Conductivity: 40.0 uS/cm
Chloride: 4 mg/L
Total Phosphorus: 12 ug/L
Transparency: 3.2 m
pH: 6.6

NH Water Quality Standards: Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.
Chloride: < 230 mg/L (chronic)
E. coli: > 88 cts/100 mL – public beach
E. coli: > 406 cts/100 mL – surface waters
Turbidity: > 10 NTU above natural level
pH: 6.5-8.0 (unless naturally occurring)

HISTORICAL WATER QUALITY TREND ANALYSIS

Parameter	Trend	Explanation
Chlorophyll-a	Stable	Data not significantly increasing or decreasing.
Transparency	Stable	Data not significantly increasing or decreasing.
Phosphorus (epilimnion)	Degrading	Data significantly increasing (worsening).



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